

**UPDATE REPORT ON
ALBERTA ENVIRONMENT AND WATER'S
UPSTREAM OIL AND GAS RECLAMATION
CERTIFICATE PROGRAM**

March 31, 2011

**Government
of Alberta ■**

Web Site: <http://environment.gov.ab.ca/info/>

Update Report on Alberta Environment and Water's Upstream Oil and Gas Reclamation Certificate Program, March 31, 2011.

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1. Introduction

The Province of Alberta introduced reclamation certificates in 1963 to promote reclamation of industrially disturbed private lands. The program was expanded to include public lands in 1978 and revised in 2003 to increase the province's ability to handle certificate applications while maintaining environmental standards. Under the current program, Alberta Environment and Water is responsible for reclamation on private land and Alberta Sustainable Resource Development for public land. Alberta Environment and Water oversees the development of guidelines and documentation used to administer these parallel programs.

For nearly 50 years, Alberta has established itself as a world leader in reclamation by meeting the challenges posed by a broad range of industrial disturbances throughout different landscapes and soil types. Over time, new research and technologies have improved construction practices, soil conservation measures and revegetation techniques leading to continually improving reclamation results. Today, reclamation results are gauged against standards or reclamation criteria that reflect these improvements and are grounded in the concept of equivalent land capability – that potential uses of the land following reclamation are similar to, but may not necessarily be the same as that which existed prior to the industrial activity taking place.

2. Alberta's Upstream Oil and Gas Reclamation Certificate Program

Alberta's Upstream Oil and Gas Reclamation Certificate Program ensures specified land used for oil and gas development is restored to a productive state. Part 6 of the *Environmental Protection and Enhancement Act* requires all specified land to be reclaimed and obtain a reclamation certificate. Specified land is land that is being or has been used or held for or in connection with the construction, operation or reclamation of an oil or gas well, battery, oil production site, and pipeline.

The company that owns the well or pipeline to be reclaimed submits an application for a reclamation certificate to Alberta Environment and Water or Alberta Sustainable Resource Development. Each application must include environmental site assessments to determine presence or absence of contamination and a report detailing how contaminants, if identified, were remediated and a detailed site assessment illustrating how surface issues pertaining to landscape, soils, and vegetation were reclaimed. If all standards are met, the company is issued a reclamation certificate.

2.1 Program Details

Alberta's Upstream Oil and Gas Reclamation Certificate Program is designed to improve the efficiency of issuing reclamation certificates while maintaining a commitment to environmental assurance, accountability, and open communication with stakeholders.

Reclamation Certificate Applications

Reclamation certificate applications (applications) are accepted by Alberta Environment and Water for private land or Alberta Sustainable Resource Development for public land. Applications must contain information on the status of subsurface contamination and surface assessment and show that private landowners/occupants have received copies of all documentation related to land reclamation and remediation. The application fee for a reclamation certificate application is \$700.

Routine vs. Non-Routine Applications

All applications are categorized as routine or non-routine.

Routine applications are reviewed for completeness, appropriate signatures, inclusion of required documents, and landowner complaints. Routine applications receive a reclamation certificate after passing the completeness review, while incomplete applications are refused. Applications with unresolved complaints will become non-routine.

Non-routine applications are reviewed for completeness prior to regulatory review by an environmental protection officer. The review ensures compliance with remediation guidelines and reclamation criteria. Non-routine applications that pass both completeness and regulatory reviews receive a reclamation certificate. Applications are refused if they are incomplete, inconsistent, or do not meet remediation guidelines or reclamation criteria.

Audits

In order to ensure that companies responsible for reclaiming abandoned sites have complied with all of the province's reclamation and remediation standards, Alberta Environment and Water and Alberta Sustainable Resource Development conduct randomly selected field audits on approximately 15% of all sites that have received a reclamation certificate. Sites are eligible for audit up to three years after a reclamation certificate is issued. The field audit may focus on either surface reclamation or contamination.

Surface reclamation audits include an inspection of the soil for topsoil depth, compaction, admixing of surface soil and subsoil, and site topography. The environmental protection officer also assesses the vegetation cover, plant species compatibility with adjacent land, and inspects the site for the presence of weeds, rocks, and/or debris.

Contamination audits include soil sampling at depth to obtain samples from: well centers, drilling waste disposal areas, flare pits, random locations on site, as well as background samples from undisturbed areas. The samples are submitted to an environmental laboratory for analysis.

Reclamation certificates may be cancelled based on the results of an audit. Additional remediation and/or reclamation work will be required. If a reclamation certificate is cancelled, the operator must re-apply with a new application and fee.

Complaints

Alberta Environment and Water and Alberta Sustainable Resource Development respond to all complaints received regarding reclamation activities on private and public land. An *Upstream Oil and Gas Facility Complaint Form* has been developed to assist landowners or occupants in filing a complaint. Complaints can be submitted at any time during construction, operation, reclamation or following reclamation of a site. A substantiated complaint may lead to the cancellation of a reclamation certificate if the certificate was issued after the program change in October 2003. The *Upstream Oil and Gas Facility Complaint Form* may be found at: <http://www.environment.alberta.ca/02485.html>

Liability Period

The industry liability period for surface reclamation issues (topography, vegetation, soil texture, drainage etc.) is 25 years and the company is required to resolve any reclamation issues that arise within the 25-year period. The liability reverts to the government after the industry liability period has expired. Liability for contamination issues remains with the company in perpetuity.

Professional Assurance

As of January 1, 2008, professional sign off is required on all land remediation and reclamation work on upstream oil and gas sites. Members of six professional organizations are eligible to sign off if they have a minimum of five years of experience in remediation and reclamation as per the *Competencies for Remediation and Reclamation Advisory Committee's Recommendations Report* (AENV 2006) which can be viewed at <http://www.environment.alberta.ca/01972.html> and carry errors and omissions insurance. The professional organizations include:

- Alberta Institute of Agrologists
- Alberta Society of Professional Biologists
- Association of Professional Engineers, Geologists and Geophysicists of Alberta
- Association of the Chemical Profession of Alberta
- College of Alberta Professional Foresters, and
- College of Alberta Professional Forest Technologists.

For all remediation and reclamation work completed after January 1, 2008, a professional must sign a *Professional Declaration for Reclamation Certificate Applications form*. The form must be signed when the following are completed: Phase 1 environmental site assessment, compliance option checklists for drilling waste disposal, Phase 2 environmental site assessment, remediation and confirmatory sampling, and reclamation detailed site assessments.

2.2 Performance Measures

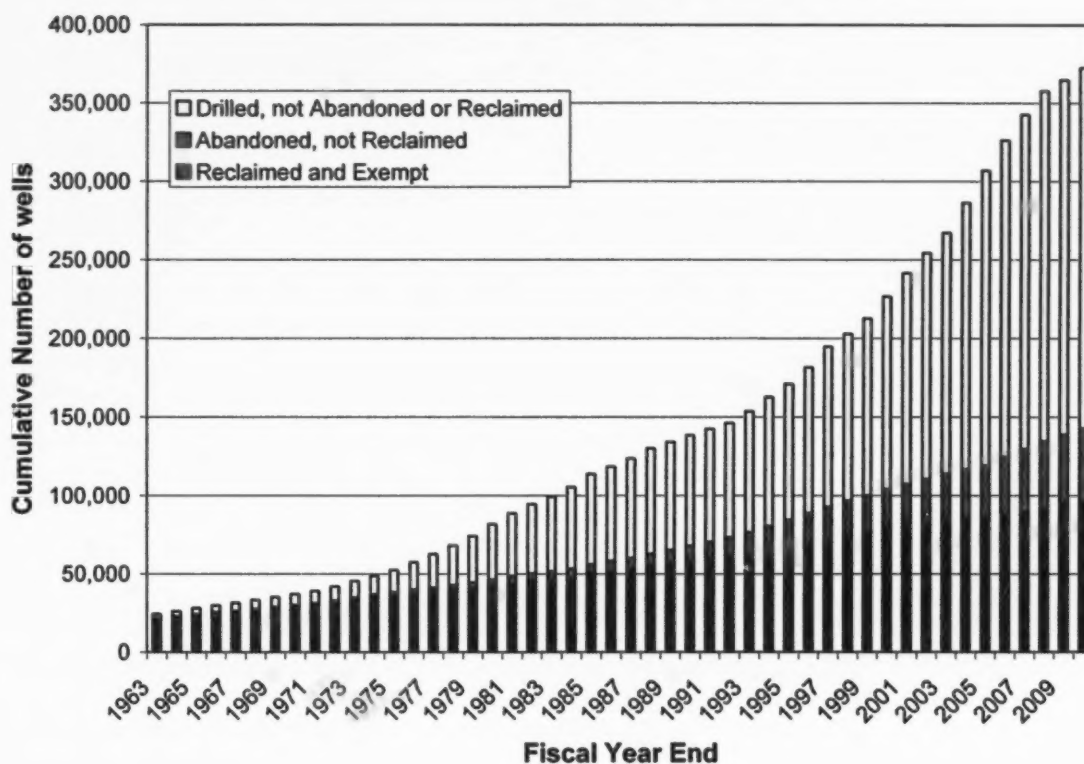
Performance measures help to evaluate the reclamation certificate program outcomes. The performance measures include:

- 1) Ratio of certified upstream oil and gas wellsites and production sites to abandoned upstream oil and gas sites

This measure compares the number of abandoned upstream oil and gas wells on sites that are awaiting reclamation or submission of the site evaluations to government, to the number of reclamation certificates for private and public land that have been issued by Alberta Environment and Water (AEW) and Alberta Sustainable Resource Development (ASRD).

The program goal is to increase the number of abandoned sites that are reclaimed each year. Reclaiming oil and gas sites in a timely manner, after a well is no longer productive, will help to reduce impacts on the land.

Drilled, Reclaimed and Abandoned Wells in Alberta, 1963-2010



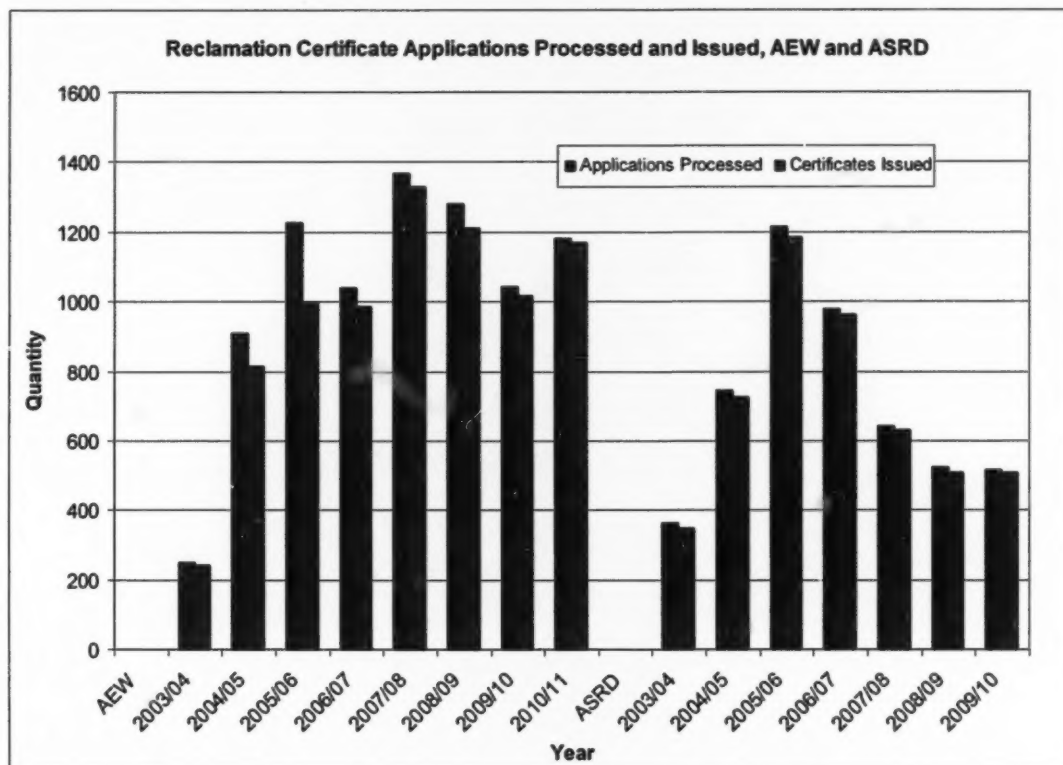
2) Percentage of applications receiving a reclamation certificate

This measure indicates the percentage of reclamation certificate applications that undergo a successful desktop review and receive a reclamation certificate. The reclamation certificate application pass rate indicates the quality of the applications submitted and therefore, the percentage of sites that have achieved Alberta Environment and Water's remediation requirements and reclamation criteria.

The program goal is to work with industry to increase the number of applications that meet the reclamation and remediation requirements necessary to receive a reclamation certificate.

October 1, 2003 to March 31, 2011

Department	Applications processed	Applications certified	Applications refused	Application pass rate
AEW	8291	7758	533	93.6%
ASRD	5513	5382	131	97.6 %



3) The percentage of randomly selected sites certified following program changes in October 1, 2003 that pass the audit.

This measure indicates the percentage of randomly selected certified sites audited by Alberta Environment and Alberta Sustainable Resource Development that have met the province's reclamation and remediation requirements. The number of audits is based on the number of sites certified in the previous fiscal year. Approximately 15 percent of upstream oil and gas sites that receive a reclamation certificate under the Upstream Oil and Gas Reclamation Certificate Program will be audited. This performance measure provides assurance that certified sites are meeting the province's remediation requirements and reclamation criteria.

The goal of the program is to work with industry to increase the number of oil and gas sites that meet the reclamation and remediation requirements necessary to pass the field audit.

Surface Audits: October 1, 2003 to March 31, 2011

Department	Total wellsites certified	Surface reclamation audits	Certificates upheld	Outcome following audit
AEW	7758	742 (9.6 %)	602 (81.1 %)	Results Pending*: 6 Certificates cancelled: 41
ASRD	5382	1173 (21.8 %)	1074 (91.6 %)	Results Pending*: 13 Certificates cancelled: 78

* Review of these audit reports had not been finalized.

Contamination Audits: October 1, 2003 to March 31, 2011

Department	Total wellsites certified	Contamination audits	Certificates upheld	Outcome following audit
AEW	7758	288 (3.7 %)	242 (84.0%)	Results Pending*: 26 Certificates cancelled: 20
ASRD	5382	97 (1.8 %)	90 (92.8 %)	Results Pending*: 4 Certificates cancelled: 3

* Review of these audit reports had not been finalized.

- 4) Percentage of private land applications accompanied by an *Acknowledgement of Information Disclosure* form.

This measure was used to indicate whether industry had been in consultation with landowners throughout the contamination assessment, remediation, and reclamation processes. Under the new 2010 reclamation certificate application process the *Acknowledgement of Information Disclosure* form is no longer required with the application package. Applicants are required to provide landowners with a copy of the reclamation certificate application package 30 days before submitting the package to Alberta Environment and Water. Applicants who may still wish to submit the form with application packages can find the form at: <http://www.environment.alberta.ca/01920.html>.

4. Conclusion

Alberta's Upstream Oil and Gas Reclamation Certificate Program ensures that land used for oil and gas development is restored to a productive state. Alberta Environment and Water is responsible for overseeing the development of policies, guidelines and documentation used to administer the program. The department is committed to ongoing improvement of the program. Review of performance indicators and consultation with stakeholders will provide regular evaluation of the program.